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Lyme Disease — United States, 1995

Lyme disease (LD) is caused by the tickborne spirochete *Borrelia burgdorferi* sensu lato. Surveillance for LD was initiated by CDC in 1982 and, during 1990, the Council of State and Territorial Epidemiologists designated LD as a nationally notifiable disease. For surveillance purposes, LD is defined as the presence of an erythema migrans rash ≥5 cm in diameter or laboratory confirmation of infection with objective evidence of musculoskeletal, neurologic, or cardiovascular disease (*1*). This report summarizes cases of LD reported by state health departments to CDC during 1995 and indicates that the number of reported cases declined slightly from 1994.

In 1995, 11,603 cases of LD were reported to CDC by 43 states and the District of Columbia (overall incidence 4.4 per 100,000 population), the second highest annual number reported since 1982 but an 11% decrease from the 13,043 cases reported in 1994 (Figure 1). As in previous years, the highest numbers of cases were reported from the northeastern, north-central, and mid-Atlantic regions (Figure 2). Incidences >4.4 per 100,000 were reported by eight states, all in established LD-endemic regions (Connecticut [45.6], Rhode Island [34.9], New York [21.9], New Jersey [21.1], Pennsylvania [16.7], Maryland [9.2], Wisconsin [7.2], and Minnesota [5.8]); these states accounted for 10,640 (92%) of reported cases. In 1995, no LD cases were reported from Alaska, Colorado, Hawaii, Idaho, Montana, North Dakota, or South Dakota.

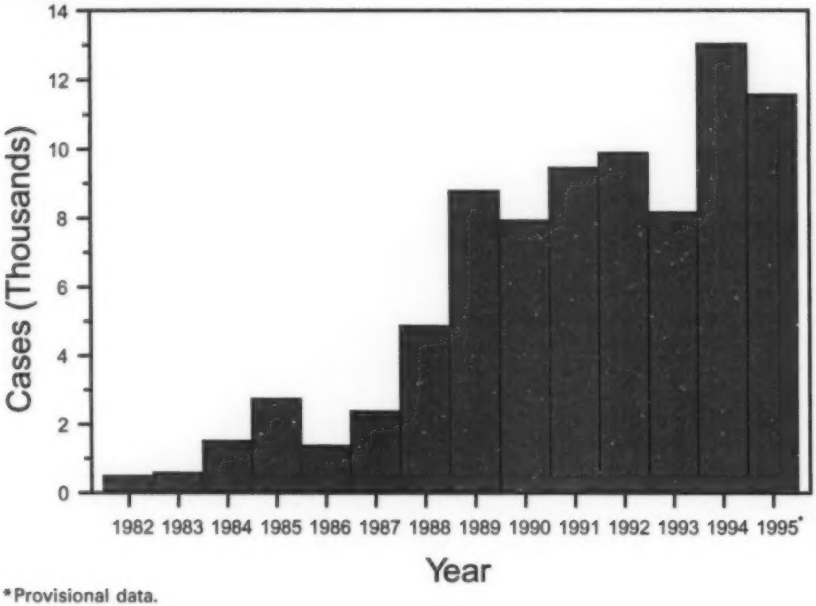
Sixty-three counties each reporting ≥20 cases accounted for 78% of all reported cases. Reported incidences were >100 per 100,000 in 14 counties in Connecticut, Maryland, Massachusetts, Minnesota, New Jersey, New York, Pennsylvania, Rhode Island, and Wisconsin; the highest reported incidence was in Nantucket County, Massachusetts (838.8) (Figure 3).

Compared with 1994, the number of LD case reports in 1995 decreased by 113 (89%) in Georgia, 82 (77%) in Delaware, 76 (58%) in Virginia, 51 (52%) in Oklahoma, 49 (48%) in Missouri, 126 (27%) in Rhode Island, 537 (26%) in Connecticut, and 1222 (24%) in New York. Reported cases increased by 580 (40%) in Pennsylvania and by 61 (29%) in Minnesota. In the remaining states, numbers of reported cases remained stable.

The highest proportions of cases occurred among persons aged 0–14 years (2760 [24%]) and adults aged 35–49 years (2797 [24%]). Of 11,504 cases for which sex was reported, 5811 (51%) were male.

Lyme Disease — Continued

FIGURE 1. Number of reported Lyme disease cases, by year — United States, 1982–1995



*Provisional data.

Reported by: State health departments. Bacterial Zoonoses Br, Div of Vector-Borne Infectious Diseases, National Center for Infectious Diseases, CDC.

Editorial Note: The number of reported LD cases has increased steadily from 1982 through 1995, possibly reflecting increased recognition and reporting compliance and a true increase in incidence. The slight decline in the number of LD cases reported in 1995 from 1994 may have resulted from changes in these factors or a decrease in populations of *Ixodes scapularis*, the principal tick vector in the northeastern and north-central United States, as a result of variations in the environment. For example, light snowfall and dry spring conditions in Rhode Island during 1995 have been temporally associated with a 33% decline in the population of *I. scapularis* from 1994 (T. Mather, University of Rhode Island, Kingston, personal communication, 1996).

Decreases in the number of reported LD cases in Georgia and Missouri may reflect 1) increased awareness among health-care providers that LD is not endemic in these states and 2) the possibility that some tickborne rashes may be related to another etiology. No cases in Missouri or the southern states have been confirmed by isolation of *B. burgdorferi*. An LD-like illness among some patients in Georgia and Missouri is characterized by a localized, expanding circular skin rash, similar to erythema migrans, and negative serology for *B. burgdorferi* (*2*). An uncultivable spirochete (*B. lonestari* sp. nov) identified in lone star ticks (*Amblyomma americanum*) collected

Lyme Disease — Continued

FIGURE 2. Number of reported Lyme disease cases, by state — United States, 1994

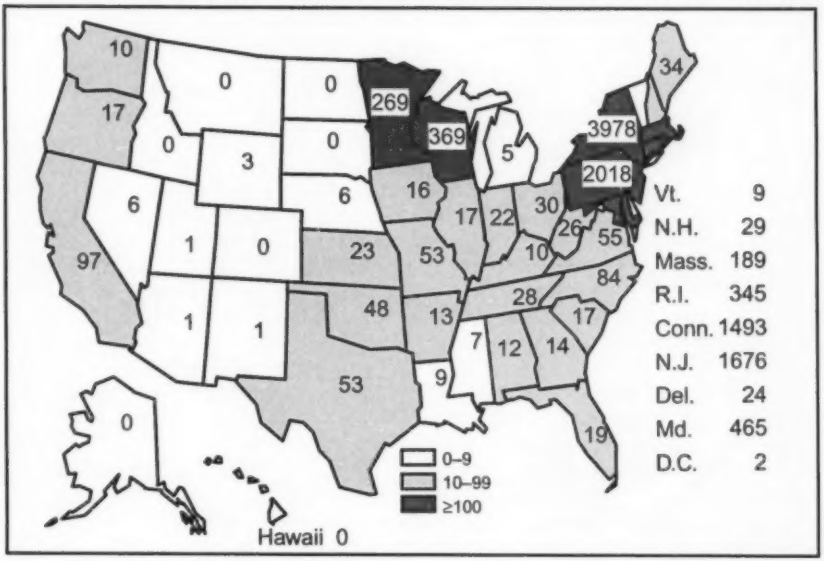
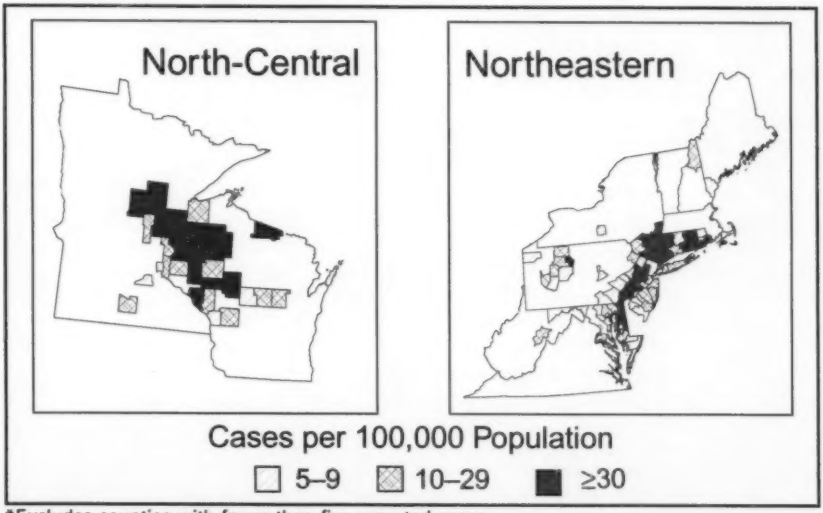


FIGURE 3. Reported rates of Lyme disease, by county — north-central and northeastern United States, 1995*



*Excludes counties with fewer than five reported cases.

Lyme Disease — Continued

from Missouri, New Jersey, New York, North Carolina, and Texas has been postulated as the possible etiologic agent (*3*).

Vaccines to protect against LD are in advanced stages of development and evaluation. However, personal protection measures (e.g., applying tick repellants and inspecting for ticks) and environmental modifications (e.g., applying insecticides and using deer fencing) will continue to be important methods for reducing the risk for exposure to tick bites and preventing LD and other tickborne diseases (e.g., ehrlichiosis and babesiosis) (*4–6*). To enable optimal treatment of patients, clinical and laboratory data must be used to distinguish between these diseases, and the possibility of coinfection with more than one agent should be considered (*7,8*). Early stages of LD usually are treated with amoxicillin or doxycycline; the treatments of choice for ehrlichiosis and babesiosis are tetracyclines and clindamycin/quinine, respectively (*9*).

Participants in the Second National Conference on the Serologic Diagnosis of Lyme Disease (October 1994) recommended that laboratories use a two-test approach for the serologic diagnosis of LD. Specimens should be tested first by using the more sensitive enzyme-linked immunosorbent assay (ELISA) or indirect immunofluorescence assay (IFA). Specimens that are positive or equivocal then should be tested with the more specific IgG and IgM Western blot (WB). Because sensitivity and specificity of the ELISA and WB vary in relation to the timing of specimen acquisition, clinical and exposure histories must be considered in the interpretation of serologic results (*10*).

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Update: National Breast and Cervical Cancer Early Detection Program — July 1991–September 1995

During the 1990s, breast or cervical cancer will be diagnosed in an estimated 2 million women in the United States, and 500,000 will die as a result of these diseases (*1*). Screening mammography followed by timely and appropriate treatment can reduce

Breast and Cervical Cancer — Continued

breast cancer mortality by 30% for women aged 50–69 years, and routine use of the Papanicolaou (Pap) test followed by timely and appropriate treatment can prevent nearly all deaths from cervical cancer (*2,3*). The Breast and Cervical Cancer Mortality Prevention Act of 1990* established a nationwide, comprehensive public health program for increasing access to breast and cervical cancer screening services for underserved women. This report summarizes the impact of this initiative, CDC's National Breast and Cervical Cancer Early Detection Program (NBCCEDP), during July 1991–September 1995.

During the reporting period, the NBCCEDP was implemented in 35 state health agencies and nine American Indian/Alaskan Native programs that provided screening, referral, and follow-up services; public and professional education; quality assurance; surveillance; and coalition and partnership development. Outreach efforts were initiated to women in high-priority groups, including older women, women with low income, uninsured or underinsured women, or women of racial/ethnic minority groups. During the reporting period, approximately 800,000 screenings for breast and cervical cancer were provided to uninsured or underinsured women.

During July 1991–September 1995, the program provided 327,017 mammograms; 61.2% of the mammograms were provided to women aged ≥50 years, and 46.7% were provided to women of racial and ethnic minorities. Breast cancer was diagnosed in 1674 of the women who received mammograms. Although the rate of abnormalities detected by mammogram was highest for younger women, the rate of breast cancers detected per 100,000 mammograms increased directly with increasing age (Figure 1).

A total of 472,188 Pap tests were performed; 59.1% of the Pap tests were provided to women aged ≥40 years, and 46.5% were provided to women in racial/ethnic minorities. Cervical intraepithelial neoplasia, a precursor of cervical cancer that can be successfully treated, was diagnosed in 15,119 women. Invasive cervical cancer was diagnosed in 184 women. The rate of abnormal Pap tests varied inversely with age.

Reported by: Program Svcs Br and Office of the Director, Div of Cancer Prevention and Control, National Center for Chronic Disease Prevention and Health Promotion, CDC.

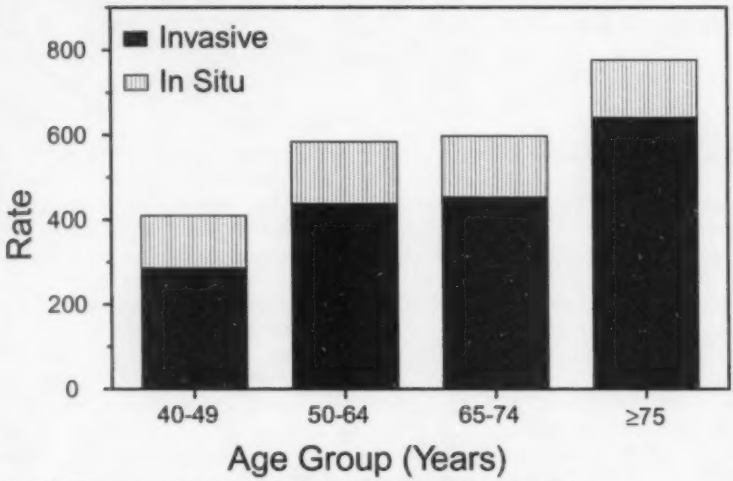
Editorial Note: The national health objectives for the year 2000 include increasing to at least 60% the proportion of women in low-income groups and aged ≥50 years who have received a clinical breast examination and mammogram within the preceding 2 years and increasing to at least 80% the proportion of low-income women and women aged ≥18 years (with uterine cervix) who have received a Pap test within the preceding 3 years (objectives 16.11b and 16.12d) (*4*). The Breast and Cervical Cancer Mortality Prevention Act has enabled state health agencies to build a public health infrastructure to increase access to breast and cervical cancer screening services for women who are medically underserved. During fiscal year 1996, CDC entered the sixth year of the program; the number of women screened for breast and cervical cancer has increased substantially each year.

Although screening mammography and Pap tests are essential strategies for cancer prevention and control, these procedures have been substantially underused. The most important risk factors for breast cancer are female sex and older age (*5*); however, findings from the 1992 National Health Interview Survey (NHIS) indicated that only 35% of women aged ≥50 years reported having had a screening mammogram during the previous year. In addition, even though cervical cancer death rates are

*Public Law 101-354.

Breast and Cervical Cancer — Continued

FIGURE 1. Rate* of breast cancers, by age — United States, National Breast and Cervical Cancer Early Detection Program, July 1991–September 1995



*Per 100,000 mammograms, age-adjusted to the 1970 U.S. population.

higher among older women (*6*), older women are less likely to receive Pap tests on a regular basis (*3*). The 1992 NHIS indicated that only 63% of women aged 50–64 years reported having had a Pap test during the previous 3 years (*7*). Use of mammograms and Pap tests was lower among women of racial/ethnic minorities, women who had less than a high school education, and women who had a low income (*7*). Reasons for the low proportion of women who use these screening tests include lack of a recommendation for screening from a health-care provider, costs associated with the tests, and lack of an understanding of the value of early detection.

Early detection programs at the state and community levels have resulted in increased staff resources and expertise for cancer control, innovative public and professional education programs for women and health-care providers, collaborative partnerships involving the private and public sectors, state and community coalitions, and improved understanding of the barriers that prevent underserved women from seeking screening services. Improvements in measures for ensuring quality of screening tests and the establishment of public and private partnerships have benefitted all women. For example, when the NBCCEDP was implemented in 1991, provider agencies participating in the program were required to meet technical guidelines for mammography and cytology services, which included having all mammography facilities meet standards established by the American College of Radiology and the Food and Drug Administration and all cytology laboratories meet standards established by the Clinical Laboratory Improvements Act of 1988. To promote the importance of screening services for all women, CDC has developed partnerships with national organizations such as the American Cancer Society, Young Women's Christian Association of the USA, and Susan G. Komen Breast Cancer Foundation.

Breast and Cervical Cancer — Continued

During fiscal year 1996, CDC received Congressional appropriations of $125 million for breast and cervical cancer control. CDC now provides funding to 35 states and nine American Indian/Alaskan Native programs for comprehensive screening programs, and infrastructure grants have been provided to 15 states, the District of Columbia, and three territories. During 1996, CDC will implement a nationwide comprehensive screening program by funding the remaining 15 states, the District of Columbia, and several of the U.S. territories.

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Factors Associated with Prevalent Self-Reported Arthritis and Other Rheumatic Conditions — United States, 1989–1991

Arthritis and other rheumatic conditions are among the most prevalent diseases in the United States, particularly for women and some racial/ethnic groups (*1–3*). In 1992, arthritis was the leading cause of disability and was associated with total direct and indirect costs of $64.8 billion (*4*); projections indicate that by 2020, arthritis will affect 59.4 million (18.2%) persons in the United States (*1*). Previous reports have documented marked differences in the prevalence rates of arthritis by age, sex, race, ethnicity, education, and body mass index (BMI) (*1–3*). To examine the relative importance of these factors, CDC used data from the 1989–1991 National Health Interview Survey (NHIS) and a multivariate model to estimate the independent effect of each factor on self-reported arthritis. This report summarizes the results of that analysis, which indicate that a higher risk for arthritis is associated with older age, overweight, or obesity and that a lower risk is associated with being Asian/Pacific Islander or Hispanic or with having a higher education level.

The NHIS is an annual national probability sample of the U.S. civilian, noninstitutionalized population (*5*). Estimates of the prevalence of arthritis were based on a one-sixth random sample (n=59,289) of respondents who answered questions about the presence of any musculoskeletal condition during the preceding 12 months and provided details about these conditions. Each condition was assigned a code from the

Arthritis and Other Rheumatic Conditions — Continued

International Classification of Diseases, Ninth Revision (ICD-9). This analysis used the definition of arthritis, which included arthritis and other rheumatic conditions, developed by the National Arthritis Data Workgroup (*1*)*. The final sample of 41,919 excluded persons aged <18 years (n=16,488), for whom self-reported height and weight were not asked, and persons aged ≥18 years for whom such data were missing (n=882).

Multivariate logistic regression was used to assess the relation between self-reported arthritis and age, race, ethnicity, education, and BMI. Previous studies have documented that each of these variables is associated with arthritis (*1–3,6–8*). Because stratified analyses suggested that the effect of BMI on arthritis differed by sex, the model was applied separately to men and women. For this analysis, BMI (weight [kg]/height [m]^2) was divided into four categories: underweight (BMI<20), normal weight (20≤BMI<25), overweight (25≤BMI<30), and obese (BMI≥30) (*9*). SUDAAN was used to weight observations and to account for the complex sampling design.

Of the 41,919 persons surveyed, 8706 (21%) reported having arthritis. Older age was the strongest overall predictor for self-reported arthritis (Table 1). Among women, risk for arthritis varied directly with BMI. Among men, the risk was higher among those with greater BMI (odds ratio [OR]=1.3 [95% confidence interval (CI)=1.1–1.4] for overweight, OR=1.7 [95% CI=1.5–2.0] for obese), and those who were underweight (OR=1.4 [95% CI=1.0–1.8]), a finding that persisted despite adjustments for conditions that could cause chronic weight loss (e.g., infections and neoplasms). Risk for arthritis was similar by race for all groups except Asians/Pacific Islanders (OR=0.6 [95% CI=0.4–0.9]), and by ethnicity, was lower among Hispanics. For men, risk was lower for those who were college graduates (OR=0.8 [95% CI=0.7–1.0]) or who attended graduate school (OR=0.7 [95% CI=0.6–0.9]). Models using different BMI categories and models run without proxy-reported observations yielded similar findings.

Reported by: Dept of Epidemiology, School of Public Health, Univ of North Carolina, Chapel Hill. K Johnston-Davis, Association of Schools of Public Health, Washington, DC. Div of Adult and Community Health, National Center for Chronic Disease Prevention and Health Promotion, CDC.

Editorial Note: The category of arthritis and other rheumatic conditions comprises several specific diseases associated with a spectrum of etiologies (Table 2). However, the epidemiology of most of these conditions—including incidence and prevalence estimates—has not been well characterized. In the United States, the most common types of arthritis include osteoarthritis and rheumatoid arthritis.

The findings of this analysis indicate that, even when adjusted for other factors, risk for arthritis is higher among persons who are overweight or obese or of older age. In addition, this report documents the low risk for arthritis among Asians/Pacific Islanders and Hispanics and among men with higher education. Although NHIS could not determine whether respondents were overweight or obese before or after the onset of arthritis, previous studies have documented that overweight or obesity are risk factors for osteoarthritis of the knee (*6–8*). The low risk for arthritis among Asians/Pacific Islanders and Hispanics persisted after adjustment for age, BMI, and education. These race/ethnicity-specific associations may reflect variations in cultural thresholds for reporting arthritis, risk factors (e.g., joint injury, occupations involving knee bending,

* *International Classification of Diseases, Ninth Revision, Clinical Modification*, codes 95.6, 95.7, 98.5, 99.3, 136.1, 274, 277.2, 287.0, 344.6, 353.0, 354.0, 355.5, 357.1, 390, 391, 437.4, 433.0, 446, 447.6, 696.0, 710–716, 719.0, 719.2–719.9, 720–721, 725–727, 728.0–728.3, 728.6–728.9, 729.0–729.1, and 729.4.

Arthritis and Other Rheumatic Conditions — Continued

TABLE 1. Factors associated with self-reported arthritis and other rheumatic conditions among persons aged ≥18 years in a multivariate model, by sex — National Health Interview Survey, United States, 1989–1991*

Factors	Men (n=19,534)		Women (n=22,385)	
	Odds ratio†	(95% CI§)	Odds ratio	(95% CI)
Body mass index¶				
Underweight	1.4	(1.0– 1.8)	0.9	(0.8– 1.0)
Normal weight	1.0	referent	1.0	referent
Overweight	1.3	(1.1– 1.4)	1.3	(1.2– 1.5)
Obese	1.7	(1.5– 2.0)	1.5	(1.3– 1.7)
Age group (yrs)				
18–24	1.0	referent	1.0	referent
25–34	2.3	(1.6– 3.4)	2.0	(1.5– 2.6)
35–44	4.9	(3.4– 7.0)	3.4	(2.5– 4.7)
45–54	8.1	(5.6–11.6)	7.2	(5.4– 9.7)
55–64	14.4	(10.2–20.5)	10.6	(8.0–14.1)
65–74	16.0	(11.0–23.3)	12.9	(9.5–17.5)
75–84	18.5	(12.3–27.9)	16.0	(11.9–21.5)
≥85	16.0	(8.6–29.5)	12.9	(9.0–18.6)
Race				
White	1.0	referent	1.0	referent
Black	0.9	(0.7– 1.1)	0.9	(0.8– 1.1)
American Indian/ Alaskan Native	1.6	(1.0– 2.6)	1.2	(0.7– 2.1)
Asian/Pacific Islander	0.6	(0.4– 0.9)	0.6	(0.4– 1.0)
Other	1.0	(0.6– 1.6)	1.1	(0.7– 1.5)
Ethnicity				
Hispanic	0.6	(0.5– 0.8)	0.7	(0.5– 0.8)
Non-Hispanic	1.0	referent	1.0	referent
Education				
Less than high school	1.1	(1.0– 1.4)	1.0	(0.9– 1.2)
Some high school	1.1	(0.9– 1.3)	1.2	(1.1– 1.4)
High school graduate	1.0	referent	1.0	referent
Some college	1.0	(0.9– 1.2)	1.1	(1.0– 1.2)
College graduate	0.8	(0.7– 1.0)	0.9	(0.7– 1.0)
Graduate school	0.7	(0.6– 0.9)	0.9	(0.8– 1.1)

*Race and Hispanic ethnicity (not mutually exclusive terms) are based on the respondent's description of his or her background. Arthritis is defined using the National Arthritis Data Workgroup's definition, which is based on the *International Classification of Diseases, Ninth Revision, Clinical Modification*, codes 95.6, 95.7, 98.5, 99.3, 136.1, 274, 277.2, 287.0, 344.6, 353.0, 354.0, 355.5, 357.1, 390, 391, 437.4, 433.0, 446, 447.6, 696.0, 710–716, 719.0, 719.2–719.9, 720–721, 725–727, 728.0–728.3, 728.6–728.9, 729.0–729.1, and 729.4.

†Logistic regression models run separately for men and women.

§Confidence interval.

¶Body mass index (BMI)=weight (kg)/height (m)^2. Underweight=BMI<20; normal=20≤BMI<25.0; overweight=25≤BMI<30; obese=BMI≥30.

and low socioeconomic status), or genetic determinants (e.g., rheumatoid arthritis). The finding of increased risk for arthritis among underweight men has not been reported previously and may reflect differences in self-reporting of arthritis, history of previous joint injury, or presence of other severe chronic conditions.

The findings in this report are subject to at least two limitations. First, the self-reported information comprising NHIS has not been validated; however, because only 84% of persons reporting arthritis have ever sought care from a physician for

Arthritis and Other Rheumatic Conditions — Continued

TABLE 2. Selected types and characteristics of arthritis and other rheumatic conditions*

Type	Examples	Estimated 1985 prevalence†	Risk factors
Degenerative	Osteoarthritis	15,800,000	Increasing age; female; joint trauma; repetitive use; overweight§
Systemic autoimmune	Rheumatoid arthritis	2,100,000	Increasing age, female
	Systemic lupus erythematosus	131,000	Female; black
Seronegative spondyloarthropathies	Ankylosing spondylitis	318,000	Male; HLA-B27 gene
Infectious	Gonococcal arthritis	30,000	Sexually active
	Lyme arthritis	NA¶	Tick bite in endemic area
Metabolic/Endocrine	Gout	1,000,000	Increasing age; male
Rheumatism	Bursitis, tendinitis	NA	Overuse
	Fibromyalgia	NA	Adult; female

*Excludes other musculoskeletal conditions such as tumors, bone disorders, fractures, and back and neck disorders.
†Reference *10*.
§For knee osteoarthritis only.
¶Not available.

evaluation or treatment of this condition, these findings may reflect the prevalence of rheumatic conditions more accurately than estimates based on reviews of clinical databases (*1*). Second, previous traumatic injury to a joint—a recognized risk factor for osteoarthritis—was not included in NHIS; therefore, differences in the occurrence of this risk factor may have accounted for some observed associations.

Overweight is a modifiable characteristic that is an important risk factor for knee osteoarthritis (Table 2) and as either a risk factor for or adverse consequence of other types of arthritis. Clinical and public health practitioners should emphasize interventions for preventing excess weight gain. In addition, further characteristics of the epidemiology of and risk factors for specific types of arthritis are necessary to further reduce the public health impact of arthritis.

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Arthritis and Other Rheumatic Conditions — Continued

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Outbreaks of Postoperative Bacterial Endophthalmitis Caused by Intrinsically Contaminated Ophthalmic Solutions — Thailand, 1992, and Canada, 1993

Endophthalmitis is the syndrome of inflammation or infection of the ocular cavity and its adjacent structures and can result in severe sequelae, such as visual loss. Although most postoperative endophthalmitis following intraocular surgery is caused by infection with normal skin flora, cases associated with the intraoperative use of contaminated eye solutions or materials have been reported (*1–3*). This report summarizes outbreaks of postoperative bacterial (*Pseudomonas aeruginosa* or *Bacillus* spp.) endophthalmitis in Thailand and Canada; the outbreaks were associated with the intraoperative use of intrinsically contaminated basal salt solution (BSS) and hyaluronic acid.

Thailand

From September 29 through October 2, 1992, three of four patients who had undergone extracapsular cataract extraction (ECCE) and intraocular lens implantation (IOL) in a hospital in Tak Province, Thailand, developed endophthalmitis ≤30 hours following surgery. *P. aeruginosa*, sensitive to gentamicin, amikacin, and piperacillin but resistant to kanamycin, ampicillin, tetracycline, chloramphenicol, and co-trimoxazole was isolated from intraocular fluid cultures from two of the patients. Because treatment with systemic and intravitreal antimicrobials failed, the infected eyes of all three patients were eviscerated.

An epidemiologic investigation by the Thai Field Epidemiology Training Program included a retrospective review of hospital records of all patients who had had cataract operations (predominantly ECCEs) in 1992, a case-control study to determine risk factors for infection, and environmental studies. No other patients with postoperative endophthalmitis were identified, and postoperative infections had not occurred in any of the six patients who had undergone other invasive ophthalmologic surgical procedures (scleral repair, evisceration, or eyelid operations) during September 29–October 2.

A case was defined as endophthalmitis in any patient who had had ophthalmic surgery at the hospital during September 29–October 2. Control patients were those who had had ophthalmic surgery performed by the surgeon who operated on the case-patient(s) on the same day. Risk for endophthalmitis was associated only with cataract surgery with IOL and the use of a BSS (three of four versus none of six; odds ratio [OR]=infinity, p=0.03, Fisher's exact test). *P. aeruginosa* with an antibiogram identical to that from cases was isolated from three of five unopened 100-mL bottles of BSS. *P. aeruginosa* was not isolated from cultures of other specimens, including specimens from hands of personnel, other ophthalmic medications and solutions, surgical instruments, or dressings.

Endophthalmitis — Continued

During the year before this outbreak, BSS used in this hospital had been prepared in the hospital pharmacy. The contaminated bottles of BSS were from one batch prepared in the pharmacy on September 24 and had been distributed a few days later for use in the hospital operating room. A review of the procedures for production of BSS indicated that 100-cc bottles, their caps, and the tubes used for transferring the prepared BSS from the batch-container to the 100-cc bottles were routinely cleaned and placed under ultraviolet light overnight before use. After the 100-cc bottles were filled and capped, they were sterilized by autoclaving.

P. aeruginosa was isolated from swabs obtained from the inner surface of the solution-transfer tube. Solution from unused bottles was not cultured. In addition, on the day the implicated batch of BSS was autoclaved, the pressure in the steam autoclave was recorded to have been 10–12 pounds per square inch (psi)—lower than the recommended standard of 15 psi. The inadequate sterilization, based on central supply records of the implicated batch of BSS, was detected only after the outbreak because the steam sterilizer was not monitored routinely with an indicator microorganism, and random samples of the implicated batch of BSS were not submitted for sterility testing before the bottles of BSS were distributed from the pharmacy.

Canada

During July 19–23, 1993, of 42 patients who had undergone ECCE and IOL at a hospital in Montréal, Québec, Canada, 14 had onset of endophthalmitis within 24–64 hours after surgery. Eleven of the 14 patients required vitrectomy and intravitreal administration of antimicrobial agents. *Bacillus* spp. (*B. circulans* [13 isolates] and *B. brevis* [one isolate]) were isolated from cultures of 32 intraocular fluid aspirates obtained from the 11 patients who underwent vitrectomy.

An epidemiologic investigation conducted by the hospital included a case-control study to determine risk and environmental factors for infection. A case (n=14) was defined as endophthalmitis in any patient who had had ophthalmic surgery at the hospital during July 19–23. Controls (n=28) were all other patients who had ophthalmic surgery performed at the same hospital during the same time period. Risk for endophthalmitis was not associated with any of the assessed potential risk factors, including exposure to specific surgical team members, medications, or solutions.

Cultures were obtained from samples of all solutions and ointments used preoperatively; a random sample of all unidose or presterilized solutions used intraoperatively; other ophthalmic medications and solutions; surgical instruments; dressings; and operating-room air. *Bacillus* spp. (heavy growth) was isolated only from four previously unopened syringes containing commercially prepared hyaluronic acid solution from the same lot. The unopened syringes of hyaluronic acid were manufactured in Sweden and had been used at the hospital for approximately 5 months. A review of product-storage procedures in the hospital indicated that the commercially prepared hyaluronic acid syringes were stored at 64 F (18 C) in the hospital; the storage temperature recommended by the manufacturer was 36–46 F (2–8 C). Cultures of specimens obtained from the commercially prepared hyaluronic acid (labeled "sterile") yielded *B. circulans* (five isolates) and *B. licheniformis* (one isolate) by phenotypic methods at the Bureau of Microbiology, Laboratory Center for Disease Control, Health Canada, Ottawa.

Endophthalmitis — Continued

Cataract surgery was suspended temporarily when the first case of postoperative endophthalmitis was recognized in a patient who had had surgery on July 19 and 64 hours later sought care in an emergency department for eye pain and blurred vision. Surgery was resumed after identification of the source of the infection. The hospital discontinued use of the implicated brand of hyaluronic acid on July 23; no additional cases of *Bacillus* spp. postoperative endophthalmitis have been detected.

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Editorial Note: Postoperative endophthalmitis is a rare complication of ECCE with IOL: in recent years in the United States, the incidence of endophthalmitis after ECCE with IOL has been <0.2% (*4,5*). Infection with gram-positive bacteria accounts for most such cases of endophthalmitis following ECCE with IOL, suggesting that exposure usually occurs during surgery as the result of introduction of organisms from the patient's skin or ocular surface tissues (*6*). However, infection with the same microorganism in multiple patients can result from a common source, such as contaminated saline, lens, or lens solution (*1–3*).

The outbreaks of postoperative endophthalmitis described in this report resulted from the intraoperative use of solutions believed to have been sterile. The microorganisms that caused these outbreaks—*P. aeruginosa* and *Bacillus* spp.—have been reported rarely as etiologic agents of postoperative endophthalmitis (*4,7,8*). In the outbreak in Thailand, inadequate sterilization may have allowed contaminants to survive in the containers and solution. In the outbreak in Canada, failure to maintain the commercially prepared hyaluronic acid at the manufacturer's recommended storage temperature may have facilitated proliferation of microbial contaminants to achieve concentrations exceeding minimum infectious doses for the eye.

In the United States, although the proportion of hospitals that produce their own ophthalmic solutions is unknown, most ophthalmic solutions used intraoperatively probably are commercially prepared. However, in 1990, an outbreak of postoperative endophthalmitis caused by *P. aeruginosa* was associated with exposure to or use of an intrinsically contaminated indomethacin ophthalmic preparation prepared in a community pharmacy (Food and Drug Administration [FDA], unpublished data, 1990). Following this outbreak, on November 29, 1990, FDA issued a letter of alert to pharmacists regarding pharmacists' compounding of sterile drug products. Recognition of the potential for this problem also has been addressed in various guidelines for the preparation of sterile ophthalmic products (*9,10*).

Although outbreaks of postoperative endophthalmitis caused by microorganisms present in intrinsically contaminated solutions occur infrequently, such outbreaks underscore the needs for 1) strict quality control by the producers of such solutions, 2) strict adherence by the users of commercial products to product-storage procedures specified by manufacturers' instructions, and 3) heightened surveillance by ophthalmologists, hospital epidemiologists, and other infection-control personnel for cases of postoperative endophthalmitis associated with invasive ocular operations.

Endophthalmitis — Continued

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Notice to Readers

Availability of Parenteral Quinidine Gluconate for Treatment of Severe or Complicated Malaria

CDC has received reports of two fatal cases of *Plasmodium falciparum* malaria in the United States in which a delay in obtaining quinidine gluconate for intravenous therapy was thought to have played a role in the patients' deaths. Since 1991, quinidine gluconate, a well-known and widely used class Ia anti-arrhythmic agent, has been the only parenteral antimalarial drug available in the United States. It is the drug of choice for treating serious and life-threatening malaria infections and is active against drug-resistant strains of *P. falciparum.* Intravenous quinidine is indicated whenever oral therapy is not possible, in high-density infections (>5% of red blood cells infected), and in the presence of complications such as cerebral malaria or acute renal failure.

As newer anti-arrhythmic agents have replaced quinidine for many of its cardiac indications, some hospitals and health facilities have dropped quinidine gluconate from their formularies. Although most patients with malaria reported in the United States are treated with oral medication and recover fully, a small number of fatal cases occur each year, often associated with substantial delays in seeking treatment or in initiating appropriate antimalarial therapy. Because of this potential problem, directors of hospital drug services should take into account the essential role of quinidine gluconate in treating patients with severe and complicated malaria before removing it from their formularies. Hospitals within close geographic proximity are encouraged to coordinate their respective formularies so that quinidine gluconate remains readily available.

Notice to Readers — Continued

Reported by: Food and Drug Administration. Div of Parasitic Diseases, National Center for Infectious Diseases, CDC.

Notice to Readers

Epidemiology in Action Course

CDC and Emory University will cosponsor a course designed for practicing state and local health department professionals. This course, "Epidemiology in Action," will be held at CDC during November 11–22, 1996. The course emphasizes the practical application of epidemiology to public health problems and will consist of lectures, workshops, classroom exercises (including actual epidemiologic problems), roundtable discussions, and an on-site community survey. Topics covered include descriptive epidemiology and biostatistics, analytic epidemiology, epidemic investigations, public health surveillance, surveys and sampling, computers and Epi Info software training, and discussions of selected prevalent diseases. There is a tuition charge.

Deadline for application is September 15, 1996. Additional information and applications are available from Department PSB, Emory University, Rollins School of Public Health, 7th floor, 1518 Clifton Road, N.E., Atlanta, GA 30322; telephone (404) 727-3485 or (404) 727-0199; fax (404) 727-4590; e-mail ogostan@sph.emory.edu.

Clarification and Erratum: Vol. 45, No. 21

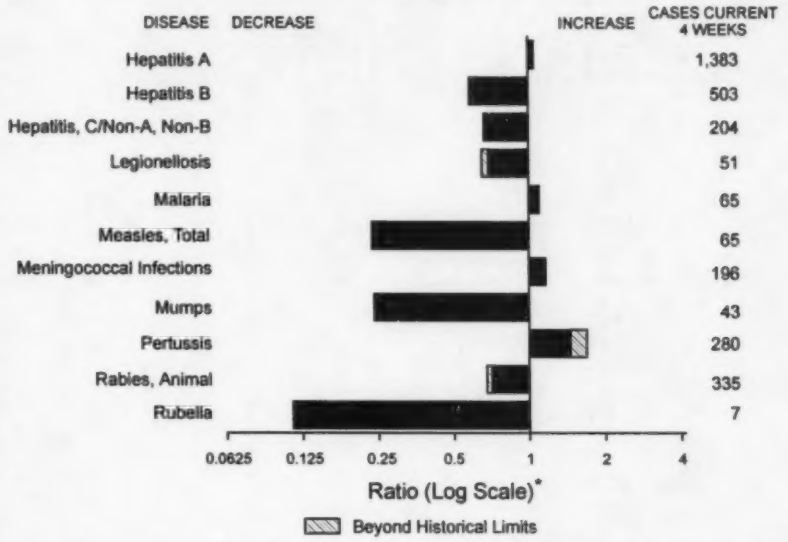
In the Notice to Readers on page 445, "National Occupational Research Agenda," the estimate in the first paragraph of 137 deaths per day from occupational illness was derived from an independent evaluation by CDC's National Institute for Occupational Safety and Health of existing estimates for the total number of occupational disease deaths, which was consistent with the estimate cited in reference 1.

In the footnote, the toll-free telephone number was incorrect; the correct phone number is (800) 356-4674.

Erratum: Vol. 45, No. 22

In the article, "Scopolamine Poisoning Among Heroin Users—New York City, Newark, Philadelphia, and Baltimore, 1995 and 1996," in the third full sentence on page 460, the phrase "severe respiratory distress" should be "severe respiratory depression." The corrected sentence should read, "Naloxone remains the treatment of choice for coma and severe respiratory depression associated with possible drug overdose."

FIGURE I. Selected notifiable disease reports, comparison of 4-week totals ending June 8, 1996, with historical data — United States



*Ratio of current 4-week total to mean of 15 4-week totals (from previous, comparable, and subsequent 4-week periods for the past 5 years). The point where the hatched area begins is based on the mean and two standard deviations of these 4-week totals.

TABLE I. Summary — cases of selected notifiable diseases, United States, cumulative, week ending June 8, 1996 (23rd Week)

	Cum. 1996		Cum. 1996
Anthrax	-	HIV infection, pediatric*§	122
Brucellosis	35	Plague	-
Cholera	1	Poliomyelitis, paralytic¶	-
Congenital rubella syndrome	1	Psittacosis	14
Cryptosporidiosis*	650	Rabies, human	-
Diphtheria	1	Rocky Mountain spotted fever (RMSF)	110
Encephalitis: California*	2	Streptococcal toxic-shock syndrome*	10
eastern equine*	1	Syphilis, congenital**	-
St. Louis*	-	Tetanus	7
western equine*	-	Toxic-shock syndrome	62
Hansen Disease	38	Trichinosis	11
Hantavirus pulmonary syndrome*†	-	Typhoid fever	146

-: no reported cases
*Not notifiable in all states.
†Updated weekly from reports to the Division of Viral and Rickettsial Diseases, National Center for Infectious Diseases (NCID).
§Updated monthly to the Division of HIV/AIDS Prevention, National Center for HIV, STD, and TB Prevention (NCHSTP) (proposed), last update May 28, 1996.
¶One suspected case of polio with onset in 1996 has been reported to date.
**Updated quarterly from reports to the Division of STD Prevention, NCHSTP. First quarter 1996 is not yet available.

TABLE II. Cases of selected notifiable diseases, United States, weeks ending June 8, 1996, and June 10, 1995 (23rd Week)

Reporting Area	AIDS* Cum. 1996	AIDS* Cum. 1995	Chlamydia Cum. 1996	*Escherichia coli* O157:H7 NETSS† Cum. 1996	*Escherichia coli* O157:H7 PHLIS§ Cum. 1996	Gonorrhea Cum. 1996	Gonorrhea Cum. 1995	Hepatitis C/NA,NB Cum. 1996	Hepatitis C/NA,NB Cum. 1995	Legionellosis Cum. 1996	Legionellosis Cum. 1995
UNITED STATES	28,480	32,053	112,933	403	185	113,201	169,434	1,575	1,761	312	509
NEW ENGLAND	1,123	1,696	4,186	35	17	3,328	2,214	51	56	18	9
Maine	16	26	-	3	-	19	33	-	-	1	3
N.H.	31	47	327	1	2	65	47	3	8	-	-
Vt.	9	14	-	5	5	26	19	21	6	2	-
Mass.	550	792	2,953	15	10	949	1,304	24	41	9	5
R.I.	73	121	906	4	-	230	229	3	1	6	1
Conn.	444	696	-	7	-	2,039	582	-	-	N	N
MID. ATLANTIC	7,891	8,351	17,820	49	23	13,323	18,715	154	168	64	69
Upstate N.Y.	1,000	978	N	32	12	2,548	4,165	129	81	17	21
N.Y. City	4,489	4,473	7,743	-	-	4,200	6,966	1	1	-	1
N.J.	1,511	1,770	2,046	17	5	2,218	1,702	-	75	7	14
Pa.	891	1,130	8,031	N	6	4,357	5,882	24	11	40	33
E.N. CENTRAL	2,298	2,543	15,945	97	48	17,351	34,064	204	143	93	172
Ohio	521	539	3,916	36	8	2,292	10,901	6	5	41	79
Ind.	347	255	4,521	19	10	3,112	3,423	6	-	23	38
Ill.	974	1,101	-	22	12	7,416	8,963	24	47	2	17
Mich.	323	494	4,101	20	18	2,911	7,885	168	91	22	18
Wis.	133	154	3,407	N	-	1,620	2,892	-	-	5	20
W.N. CENTRAL	691	686	10,898	74	40	5,190	8,852	103	30	21	37
Minn.	126	149	-	20	18	U	1,290	-	2	1	-
Iowa	51	40	1,814	13	9	480	657	80	3	4	12
Mo.	327	278	5,776	12	-	3,452	5,103	15	10	5	11
N. Dak.	6	1	2	1	5	1	13	-	3	-	2
S. Dak.	7	7	589	3	-	86	89	-	1	2	-
Nebr.	49	62	762	7	2	153	451	2	8	7	9
Kans.	125	149	1,955	18	6	1,018	1,249	6	3	2	3
S. ATLANTIC	7,305	7,937	21,685	22	4	42,111	47,665	115	124	45	82
Del.	142	162	-	-	-	634	890	1	-	-	-
Md.	853	1,123	2,715	N	1	5,455	5,488	-	6	6	13
D.C.	452	507	N	-	-	1,895	2,046	-	-	3	3
Va.	396	550	5,125	N	1	4,243	4,704	7	5	11	6
W. Va.	49	35	-	N	-	196	293	7	23	1	3
N.C.	355	405	-	6	2	8,359	10,676	20	27	3	16
S.C.	387	402	-	1	-	4,900	5,358	14	9	3	15
Ga.	1,096	1,093	5,351	4	-	9,737	9,064	-	11	-	10
Fla.	3,575	3,660	8,494	10	-	6,692	9,146	66	43	18	16
E.S. CENTRAL	953	982	12,312	12	13	12,332	18,258	316	557	25	16
Ky.	153	118	2,957	-	1	1,808	2,000	11	15	3	5
Tenn.	352	402	5,656	5	12	4,843	5,888	264	540	10	7
Ala.	278	261	3,699	3	-	5,681	7,123	2	2	1	3
Miss.	170	201	U	4	-	U	3,247	39	-	11	1
W.S. CENTRAL	2,656	2,490	5,818	13	4	8,169	23,010	180	102	2	11
Ark.	121	108	-	6	2	1,269	2,298	1	2	-	4
La.	656	360	2,926	4	2	3,284	5,215	73	62	-	2
Okla.	96	130	2,892	2	-	1,788	2,137	60	23	2	3
Tex.	1,783	1,892	-	1	-	1,828	13,360	46	15	-	2
MOUNTAIN	811	1,047	4,214	38	16	3,116	3,994	276	214	17	60
Mont.	10	8	-	4	-	13	38	9	9	1	4
Idaho	19	24	654	11	4	38	56	70	29	-	1
Wyo.	2	7	291	-	-	12	22	87	85	2	4
Colo.	248	340	-	14	5	788	1,294	25	32	6	26
N. Mex.	45	81	-	2	-	366	457	34	30	1	4
Ariz.	240	298	2,199	N	7	1,647	1,421	34	14	4	5
Utah	90	58	254	5	-	49	98	11	7	1	3
Nev.	157	231	816	2	-	223	608	6	8	2	13
PACIFIC	4,752	6,321	20,055	63	20	8,281	12,662	176	367	27	53
Wash.	366	457	4,439	15	5	989	1,077	29	102	1	6
Oreg.	223	187	117	19	10	246	202	3	24	-	-
Calif.	4,074	5,511	14,614	28	-	6,728	10,775	61	231	26	42
Alaska	11	45	394	1	-	183	327	2	1	-	-
Hawaii	78	121	491	N	5	135	281	81	9	-	5
Guam	3	-	102	N	-	24	55	1	3	-	1
P.R.	426	1,332	N	9	U	136	252	30	74	-	-
V.I.	9	19	N	-	U	-	20	-	-	-	-
Amer. Samoa	-	-	-	-	U	-	8	-	-	-	-
C.N.M.I.	-	-	N	-	U	11	13	-	-	-	-

N: Not notifiable U: Unavailable -: no reported cases C.N.M.I.: Commonwealth of Northern Mariana Islands

*Updated monthly to the Division of HIV/AIDS Prevention, National Center for HIV, STD, and TB Prevention (proposed), last update May 28, 1996.

†National Electronic Telecommunications System for Surveillance.

§Public Health Laboratory Information System.

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending June 8, 1996, and June 10, 1995 (23rd Week)

Reporting Area	Lyme Disease		Malaria		Meningococcal Disease		Syphilis (Primary & Secondary)		Tuberculosis		Rabies, Animal	
	Cum. 1996	Cum. 1995	Cum. 1996	Cum. 1995	Cum. 1996	Cum. 1995	Cum. 1996	Cum. 1995	Cum. 1996	Cum. 1995	Cum. 1996	Cum. 1995
UNITED STATES	1,564	2,291	445	447	1,684	1,598	4,370	7,407	7,091	7,643	2,275	3,256
NEW ENGLAND	78	230	14	18	60	76	70	91	170	178	268	764
Maine	3	3	3	1	10	5	-	2	4	-	-	-
N.H.	2	12	1	1	2	15	1	1	5	5	36	88
Vt.	-	3	2	-	3	6	-	-	-	1	77	105
Mass.	30	18	5	5	23	23	32	35	75	99	49	276
R.I.	21	39	3	2	-	-	1	1	20	18	21	123
Conn.	22	155	-	9	22	27	36	52	66	55	85	172
MID. ATLANTIC	1,289	1,663	104	109	135	201	200	412	1,244	1,594	361	948
Upstate N.Y.	692	920	28	21	41	61	31	38	132	173	205	542
N.Y. City	158	161	43	54	21	25	65	213	677	853	-	-
N.J.	86	184	28	23	37	52	55	81	296	294	67	170
Pa.	353	398	5	11	36	63	49	80	139	274	89	236
E.N. CENTRAL	19	83	38	61	215	236	693	1,173	781	641	19	11
Ohio	15	7	6	3	84	63	247	403	127	117	4	1
Ind.	4	7	7	4	35	33	108	109	85	61	1	-
Ill.	-	5	8	39	46	66	227	444	489	439	1	3
Mich.	-	1	11	9	27	43	41	130	39	-	7	6
Wis.	U	63	6	6	23	31	70	87	41	24	6	1
W.N. CENTRAL	44	33	12	10	129	90	182	384	190	264	211	155
Minn.	1	-	3	3	15	16	27	21	38	58	12	9
Iowa	16	1	2	1	28	16	10	27	26	35	114	47
Mo.	7	15	5	4	58	33	136	300	83	97	12	17
N. Dak.	-	-	-	-	2	1	-	-	2	1	23	16
S. Dak.	-	-	-	-	3	4	-	-	13	10	37	42
Nebr.	-	2	-	2	10	8	5	7	7	16	3	-
Kans.	20	15	2	-	13	12	4	9	21	47	10	24
S. ATLANTIC	65	191	105	92	372	262	1,684	1,879	1,138	1,230	1,117	972
Del.	2	19	2	1	2	3	17	7	20	46	30	51
Md.	28	122	21	23	32	18	263	189	117	183	273	202
D.C.	1	1	4	9	6	2	82	57	65	44	2	8
Va.	2	12	11	17	31	30	210	295	82	105	239	177
W. Va.	4	12	1	1	8	4	1	1	26	45	42	44
N.C.	16	14	10	7	44	45	485	518	183	130	287	191
S.C.	2	5	3	-	35	33	205	292	40	137	36	59
Ga.	-	4	8	10	88	56	279	340	301	12	132	136
Fla.	10	2	45	24	126	71	142	180	304	528	76	104
E.S. CENTRAL	24	13	11	9	101	97	766	1,721	586	607	80	117
Ky.	6	3	1	-	18	25	63	93	113	131	20	8
Tenn.	7	7	5	4	10	29	459	372	168	204	30	47
Ala.	1	1	2	5	36	24	244	269	189	172	30	60
Miss.	10	2	3	-	37	19	U	987	116	100	-	2
W.S. CENTRAL	13	42	11	8	207	191	521	1,390	869	994	25	65
Ark.	7	2	-	1	27	21	134	206	37	90	3	22
La.	-	-	1	1	36	27	245	486	U	92	12	25
Okla.	2	17	-	-	17	22	68	76	34	-	10	18
Tex.	4	23	10	6	127	121	74	622	798	812	-	-
MOUNTAIN	-	2	28	28	99	121	56	113	222	251	43	56
Mont.	-	-	2	2	3	2	-	3	7	3	8	20
Idaho	-	-	-	1	11	5	1	-	4	6	-	-
Wyo.	-	1	2	-	3	5	1	-	3	1	13	17
Colo.	-	-	14	16	17	29	16	65	33	5	4	-
N. Mex.	-	-	1	3	19	24	-	4	39	40	1	3
Ariz.	-	-	3	3	28	42	35	18	90	134	15	13
Utah	-	-	4	2	10	7	-	4	10	10	-	1
Nev.	-	1	2	1	8	7	3	19	36	52	2	1
PACIFIC	32	34	122	112	366	324	198	264	1,891	1,884	151	169
Wash.	1	2	8	11	51	54	3	7	111	122	-	2
Oreg.	7	2	9	6	67	59	5	6	45	23	-	-
Calif.	23	30	99	87	244	204	190	250	1,640	1,628	143	160
Alaska	-	-	2	1	2	5	-	1	27	34	8	7
Hawaii	1	-	4	7	2	2	-	-	68	77	-	-
Guam	-	-	-	-	1	2	2	2	35	52	-	-
P.R.	-	-	-	1	3	13	66	151	58	86	22	28
V.I.	-	-	-	-	-	-	-	1	-	-	-	-
Amer. Samoa	-	-	-	-	-	-	-	-	-	3	-	-
C.N.M.I.	-	-	-	-	-	-	1	3	-	13	-	-

N: Not notifiable U: Unavailable -: no reported cases

TABLE III. Cases of selected notifiable diseases preventable by vaccination, United States, weeks ending June 8, 1996, and June 10, 1995 (23rd Week)

Reporting Area	*H. influenzae*, invasive		Hepatitis (viral), by type				Measles (Rubeola)			
			A		B		Indigenous		Imported†	
	Cum. 1996*	Cum. 1995	Cum. 1996	Cum. 1995	Cum. 1996	Cum. 1995	1996	Cum. 1996	1996	Cum. 1996
UNITED STATES	570	600	11309	11,504	3,871	4,325	7	160	-	18
NEW ENGLAND	13	31	140	102	62	100	-	6	-	2
Maine	2	3	11	14	2	6	-	-	-	-
N.H.	7	7	6	5	5	11	-	-	-	-
Vt.	-	1	3	3	3	1	-	1	-	-
Mass.	4	7	69	43	19	33	-	4	-	2
R.I.	-	-	6	11	6	8	-	-	-	-
Conn.	-	13	45	26	27	41	-	1	-	-
MID. ATLANTIC	87	69	684	747	584	600	-	4	-	4
Upstate N.Y.	27	20	181	168	152	143	-	-	-	-
N.Y. City	12	16	290	369	279	207	-	4	-	3
N.J.	31	9	133	96	99	149	-	-	-	-
Pa.	17	24	80	114	54	101	-	-	-	1
E.N. CENTRAL	78	109	956	1,521	417	501	-	4	-	3
Ohio	49	51	422	875	57	56	-	2	-	-
Ind.	6	15	152	66	70	100	-	-	-	-
Ill.	14	27	160	293	78	133	-	1	-	1
Mich.	4	14	159	176	186	179	-	-	-	2
Wis.	5	2	63	112	26	33	-	1	-	-
W.N. CENTRAL	25	33	890	704	226	276	1	16	-	1
Minn.	10	14	48	66	19	21	-	13	-	1
Iowa	7	2	204	38	70	21	-	-	-	-
Mo.	5	13	402	503	106	200	-	2	-	-
N. Dak.	-	-	22	13	-	3	-	-	-	-
S. Dak.	1	-	35	17	-	1	-	-	-	-
Nebr.	1	2	103	20	8	14	-	-	-	-
Kans.	1	2	76	47	23	16	1	1	-	-
S. ATLANTIC	138	152	512	508	619	591	-	3	-	2
Del.	1	-	6	7	1	4	-	1	-	-
Md.	32	46	97	89	133	118	-	2	-	-
D.C.	5	-	15	5	15	10	-	-	-	-
Va.	4	16	67	85	65	40	-	-	-	2
W. Va.	4	6	10	11	14	29	-	-	-	-
N.C.	14	20	54	55	155	137	-	-	-	-
S.C.	3	-	29	19	40	24	-	-	-	-
Ga.	64	31	15	43	7	50	-	-	-	-
Fla.	11	33	219	194	189	179	-	-	-	-
E.S. CENTRAL	10	4	795	586	357	444	-	-	-	-
Ky.	2	1	15	30	28	45	-	-	-	-
Tenn.	2	-	556	473	221	346	-	-	-	-
Ala.	5	3	96	47	24	54	-	-	-	-
Miss.	1	-	128	36	84	-	-	-	-	-
W.S. CENTRAL	23	30	1,955	1,257	377	463	-	-	-	2
Ark.	-	4	233	110	31	20	-	-	-	-
La.	1	1	60	42	52	77	U	-	U	-
Okla.	21	16	855	289	47	69	-	-	-	-
Tex.	1	9	807	816	247	297	-	-	-	2
MOUNTAIN	62	60	1,810	1,818	474	357	6	21	-	1
Mont.	-	-	60	30	4	9	-	-	-	-
Idaho	1	2	126	184	56	43	U	1	U	-
Wyo.	32	3	18	64	14	9	U	-	U	-
Colo.	5	9	169	225	62	59	1	5	-	1
N. Mex.	7	9	225	360	152	145	-	-	-	-
Ariz.	9	17	713	515	116	48	5	8	-	-
Utah	6	6	411	383	55	28	-	3	-	-
Nev.	2	14	88	57	15	16	-	4	-	-
PACIFIC	134	112	3,567	4,261	755	993	-	106	-	3
Wash.	2	5	253	296	49	73	-	45	-	-
Oreg.	18	14	495	865	35	55	-	1	-	-
Calif.	111	91	2,754	2,993	666	850	-	2	-	2
Alaska	1	-	25	16	3	6	-	58	-	-
Hawaii	2	2	40	91	2	9	U	-	U	1
Guam	-	-	2	2	-	-	U	-	U	-
P.R.	1	3	59	35	207	163	-	1	-	-
V.I.	-	-	-	-	-	2	U	-	U	-
Amer. Samoa	-	-	-	5	-	-	U	-	U	-
C.N.M.I.	10	5	1	15	5	7	U	-	U	-

N: Not notifiable U: Unavailable -: no reported cases

*Of 128 cases among children aged <5 years, serotype was reported for 30 and of those, 6 were type b.

†For imported measles, cases include only those resulting from importation from other countries.

TABLE III. (Cont'd.) Cases of selected notifiable diseases preventable by vaccination, United States, weeks ending June 8, 1996, and June 10, 1995 (23rd Week)

Reporting Area	Measles (Rubeola), cont'd. Total		Mumps			Pertussis			Rubella		
	Cum. 1996	Cum. 1995	1996	Cum. 1996	Cum. 1995	1996	Cum. 1996	Cum. 1995	1996	Cum. 1996	Cum. 1995
UNITED STATES	178	213	16	295	454	74	1,286	1,169	1	75	53
NEW ENGLAND	8	4	-	-	7	2	202	182	-	11	7
Maine	-	-	-	-	4	-	8	18	-	-	1
N.H.	-	-	-	-	-	2	20	13	-	-	1
Vt.	1	-	-	-	-	-	7	8	-	2	-
Mass.	6	2	-	-	2	-	164	136	-	7	2
R.I.	-	2	-	-	-	-	-	-	-	-	-
Conn.	1	-	-	-	1	-	3	7	-	2	3
MID. ATLANTIC	8	3	2	43	64	3	100	110	-	4	7
Upstate N.Y.	-	-	1	11	15	1	56	60	-	3	1
N.Y. City	7	-	-	11	8	-	14	15	-	1	5
N.J.	-	3	-	-	8	-	-	6	-	-	1
Pa.	1	-	1	21	33	2	30	29	-	-	-
E.N. CENTRAL	7	8	1	68	73	4	154	128	-	3	-
Ohio	2	1	-	27	22	3	72	44	-	-	-
Ind.	-	-	-	5	5	-	12	11	-	-	-
Ill.	2	-	-	16	23	-	51	28	-	1	-
Mich.	2	5	1	20	23	1	14	33	-	2	-
Wis.	1	2	-	-	-	-	5	12	-	-	-
W.N. CENTRAL	17	1	1	4	28	2	61	75	-	1	-
Minn.	14	-	-	1	2	2	42	27	-	-	-
Iowa	-	-	-	-	8	-	2	2	-	1	-
Mo.	2	1	1	1	15	-	11	18	-	-	-
N. Dak.	-	-	-	2	-	-	-	6	-	-	-
S. Dak.	-	-	-	-	-	-	1	7	-	-	-
Nebr.	-	-	-	-	3	-	1	5	-	-	-
Kans.	1	-	-	-	-	-	4	10	-	-	-
S. ATLANTIC	5	3	8	40	67	20	144	102	-	12	16
Del.	1	-	-	-	-	1	9	5	-	-	-
Md.	2	-	-	12	23	1	52	13	-	-	-
D.C.	-	-	-	-	-	-	-	2	-	1	-
Va.	2	-	-	3	13	13	18	8	-	-	-
W. Va.	-	-	-	-	-	-	2	-	-	-	-
N.C.	-	-	8	8	16	4	29	50	-	-	-
S.C.	-	-	-	5	7	1	6	10	-	1	-
Ga.	-	-	-	2	-	-	7	-	-	-	-
Fla.	-	3	-	10	8	-	21	14	-	10	16
E.S. CENTRAL	-	-	3	16	12	1	44	33	-	-	-
Ky.	-	-	-	-	-	-	23	6	-	-	-
Tenn.	-	-	-	2	-	1	14	4	-	-	-
Ala.	-	-	-	4	4	-	4	23	-	-	-
Miss.	-	-	3	10	8	-	3	-	N	N	N
W.S. CENTRAL	2	11	-	13	29	-	25	61	-	2	2
Ark.	-	2	-	-	5	-	2	7	-	-	-
La.	-	9	U	10	7	U	4	4	U	1	-
Okla.	-	-	-	-	-	-	4	9	-	-	-
Tex.	2	-	-	3	17	-	15	41	-	1	2
MOUNTAIN	22	65	1	20	22	1	152	278	1	4	4
Mont.	-	-	-	-	1	-	4	3	-	-	-
Idaho	1	-	U	-	2	U	65	73	U	-	-
Wyo.	-	-	U	-	-	U	-	1	U	-	-
Colo.	6	25	1	2	-	1	20	44	1	2	-
N. Mex.	-	29	N	N	N	-	29	33	-	-	-
Ariz.	8	10	-	1	2	-	11	111	-	1	3
Utah	3	-	-	2	10	-	6	10	-	-	1
Nev.	4	1	-	15	7	-	17	3	-	1	-
PACIFIC	109	118	-	91	152	41	404	200	-	38	17
Wash.	45	16	-	9	10	11	157	34	-	1	-
Oreg.	1	1	N	N	N	-	27	14	-	1	1
Calif.	4	99	-	65	126	30	209	134	-	34	13
Alaska	58	-	-	2	12	-	2	-	-	-	-
Hawaii	1	2	U	15	4	U	9	18	U	2	3
Guam	-	-	U	3	3	U	-	2	U	-	1
P.R.	1	9	-	1	1	-	1	8	-	-	-
V.I.	-	-	U	-	2	U	-	-	U	-	-
Amer. Samoa	-	-	U	-	-	U	-	-	U	-	-
C.N.M.I.	-	-	U	-	-	U	-	-	U	-	-

N: Not notifiable U: Unavailable -: no reported cases

TABLE IV. Deaths in 121 U.S. cities,* week ending June 8, 1996 (23rd Week)

Reporting Area	All Causes, By Age (Years)						P&I† Total
	All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	595	394	102	66	15	18	20
Boston, Mass.	183	111	36	24	5	7	3
Bridgeport, Conn.	40	30	6	1	2	1	-
Cambridge, Mass.	23	14	6	3	-	-	2
Fall River, Mass.	27	22	5	-	-	-	-
Hartford, Conn.	42	25	10	5	2	-	-
Lowell, Mass.	16	14	-	2	-	-	1
Lynn, Mass.	15	13	2	-	-	-	4
New Bedford, Mass.	25	18	2	3	2	-	-
New Haven, Conn.	36	18	7	6	1	4	-
Providence, R.I.	60	41	12	6	-	1	1
Somerville, Mass.	4	4	-	-	-	-	-
Springfield, Mass.	46	33	6	4	1	2	4
Waterbury, Conn.	23	15	4	1	2	1	-
Worcester, Mass.	55	36	6	11	-	2	5
MID. ATLANTIC	2,444	1,636	487	230	55	36	115
Albany, N.Y.	54	35	11	3	3	2	4
Allentown, Pa.	26	24	2	-	-	-	-
Buffalo, N.Y.	U	U	U	U	U	U	U
Camden, N.J.	32	22	5	3	1	1	1
Elizabeth, N.J.	24	19	3	2	-	-	-
Erie, Pa.§	47	39	6	2	-	-	2
Jersey City, N.J.	36	17	10	9	-	-	-
New York City, N.Y.	1,250	826	249	136	19	20	42
Newark, N.J.	72	35	22	8	6	1	3
Paterson, N.J.	U	U	U	U	U	U	U
Philadelphia, Pa.	499	309	113	48	19	10	33
Pittsburgh, Pa.§	51	38	10	-	1	2	3
Reading, Pa.	15	9	3	2	1	-	2
Rochester, N.Y.	113	91	15	6	1	-	6
Schenectady, N.Y.	24	20	4	-	-	-	1
Scranton, Pa.§	30	24	6	-	-	-	1
Syracuse, N.Y.	101	74	18	5	4	-	7
Trenton, N.J.	25	16	6	3	-	-	5
Utica, N.Y.	17	13	2	2	-	-	-
Yonkers, N.Y.	28	25	2	1	-	-	5
E.N. CENTRAL	2,187	1,442	416	198	58	68	124
Akron, Ohio	60	42	12	4	1	1	1
Canton, Ohio	25	15	6	4	-	-	3
Chicago, Ill.	454	255	103	58	25	12	30
Cincinnati, Ohio	U	U	U	U	U	U	U
Cleveland, Ohio	153	96	29	17	6	5	3
Columbus, Ohio	219	138	41	26	3	11	20
Dayton, Ohio	104	76	16	7	-	3	10
Detroit, Mich.	224	124	53	29	5	9	9
Evansville, Ind.	49	37	10	2	-	-	-
Fort Wayne, Ind.	78	55	18	3	2	-	3
Gary, Ind.	19	12	3	3	1	-	-
Grand Rapids, Mich.	61	44	8	3	3	3	6
Indianapolis, Ind.	244	158	51	19	5	13	9
Madison, Wis.	47	32	11	2	-	2	7
Milwaukee, Wis.	139	107	22	5	1	4	6
Peoria, Ill.	49	38	4	4	2	1	5
Rockford, Ill.	40	34	4	1	-	1	3
South Bend, Ind.	52	40	6	3	2	1	3
Toledo, Ohio	112	92	12	6	1	1	3
Youngstown, Ohio	58	49	5	2	1	1	3
W.N. CENTRAL	833	561	150	63	21	22	52
Des Moines, Iowa	90	69	15	4	2	-	10
Duluth, Minn.	23	17	4	1	-	1	2
Kansas City, Kans.	30	15	7	6	2	-	1
Kansas City, Mo.	96	59	13	4	4	-	8
Lincoln, Nebr.	47	35	10	2	-	-	2
Minneapolis, Minn.	205	137	40	16	4	8	14
Omaha, Nebr.	68	41	15	6	2	4	3
St. Louis, Mo.	141	100	23	11	5	2	3
St. Paul, Minn.	56	37	8	4	-	7	5
Wichita, Kans.	77	51	15	9	2	-	4

Reporting Area	All Causes, By Age (Years)						P&I† Total
	All Ages	≥65	45-64	25-44	1-24	<1	
S. ATLANTIC	1,138	707	218	142	43	28	52
Atlanta, Ga.	126	67	25	23	5	6	4
Baltimore, Md.	206	115	42	36	9	4	11
Charlotte, N.C.	74	44	17	8	1	4	6
Jacksonville, Fla.	129	82	20	20	5	2	4
Miami, Fla.	121	74	30	13	2	2	2
Norfolk, Va.	51	38	6	3	2	2	2
Richmond, Va.	80	53	15	8	4	-	3
Savannah, Ga.	44	31	7	4	1	1	1
St. Petersburg, Fla.	68	38	16	9	2	4	3
Tampa, Fla.	225	163	35	18	6	3	16
Washington, D.C.	U	U	U	U	U	U	U
Wilmington, Del.	13	2	5	-	6	-	-
E.S. CENTRAL	666	416	164	68	13	5	43
Birmingham, Ala.	113	65	31	12	3	2	3
Chattanooga, Tenn.	43	24	10	7	2	-	2
Knoxville, Tenn.	84	40	15	5	2	2	7
Lexington, Ky.	82	49	21	10	2	-	3
Memphis, Tenn.	161	104	41	14	1	1	13
Mobile, Ala.	44	32	9	3	-	-	4
Montgomery, Ala.	16	13	2	1	-	-	2
Nashville, Tenn.	143	89	35	16	3	-	9
W.S. CENTRAL	1,518	987	309	135	46	40	81
Austin, Tex.	56	41	8	4	2	1	6
Baton Rouge, La.	71	45	19	1	5	1	2
Corpus Christi, Tex.	53	38	12	3	-	-	2
Dallas, Tex.	200	121	41	28	9	1	2
El Paso, Tex.	86	58	19	5	1	2	9
Ft. Worth, Tex.	97	50	22	7	6	12	2
Houston, Tex.	361	223	83	35	11	9	24
Little Rock, Ark.	64	40	14	5	2	3	2
New Orleans, La.	124	77	21	16	6	4	-
San Antonio, Tex.	202	139	41	17	2	3	10
Shreveport, La.	79	63	6	6	2	2	10
Tulsa, Okla.	125	92	23	8	-	2	12
MOUNTAIN	907	586	170	102	30	18	62
Albuquerque, N.M.	99	64	24	7	3	1	4
Colo. Springs, Colo.	49	30	7	9	2	1	2
Denver, Colo.	96	58	19	12	3	4	6
Las Vegas, Nev.	148	89	29	19	8	2	8
Ogden, Utah	31	28	3	-	-	-	1
Phoenix, Ariz.	195	117	34	31	6	7	22
Pueblo, Colo.	20	12	6	2	-	-	2
Salt Lake City, Utah	101	65	18	10	5	3	6
Tucson, Ariz.	168	123	30	12	3	-	11
PACIFIC	2,135	1,512	344	175	55	49	193
Berkeley, Calif.	14	11	3	-	-	-	1
Fresno, Calif.	71	54	9	5	1	2	8
Glendale, Calif.	33	29	3	1	-	-	3
Honolulu, Hawaii	68	48	13	4	2	1	2
Long Beach, Calif.	71	58	5	4	2	2	10
Los Angeles, Calif.	712	490	109	80	20	13	49
Pasadena, Calif.	19	13	3	1	1	1	1
Portland, Oreg.	142	105	30	4	2	1	10
Sacramento, Calif.	180	133	22	13	6	6	22
San Diego, Calif.	147	98	27	11	5	6	14
San Francisco, Calif.	135	84	32	16	2	1	20
San Jose, Calif.	240	176	40	12	6	6	29
Santa Cruz, Calif.	25	20	3	1	1	-	2
Seattle, Wash.	125	79	25	14	4	3	9
Spokane, Wash.	56	45	9	-	1	1	5
Tacoma, Wash.	97	69	11	9	2	6	8
TOTAL	12,423¶	8,241	2,360	1,179	338	284	742

U: Unavailable -: no reported cases

*Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

†Pneumonia and influenza.

§Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

¶Total includes unknown ages.

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